

Presentation based on DRAFT Plan – public comments to be addressed in final version

A Plan for Improving Access to Electric Vehicle Charging Infrastructure and Clean Transportation Technologies in Rhode Island

Overview of Draft Plan



STATE OF RHODE ISLAND
**OFFICE OF
ENERGY RESOURCES**



DEM
RHODE ISLAND



All Hands on Deck

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Developing this Plan was truly a team effort. Leadership and staff from across the Administration coordinated closely and prioritized this urgent work in an all-hands-on-deck effort. This Plan is just the start. We are committed to continuing to work together in lock-step, following-up with actions and accountability in 2022.

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Section 1: State of Electric Vehicles and Charging Infrastructure

Section 2: Needs, Opportunities, and Recommendations

Appendix: Stakeholder Engagement



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Introduction



Our Directive

The Department of Transportation (DOT), along with the Division of Motor Vehicles (DMV) and the Office of Energy Resources (OER), shall develop, no later than January 1, 2022, a plan for a statewide electric vehicle charging station infrastructure in order to make such electric vehicle charging stations more accessible to the public (H5031/S0994)

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Objectives for this Strategic Policy Guide

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Develop a deployment strategy rather than a master plan



Identify strategies to increase utilization of charging stations and adoption of electric vehicles



Ensure physical access



Promote equitable deployment



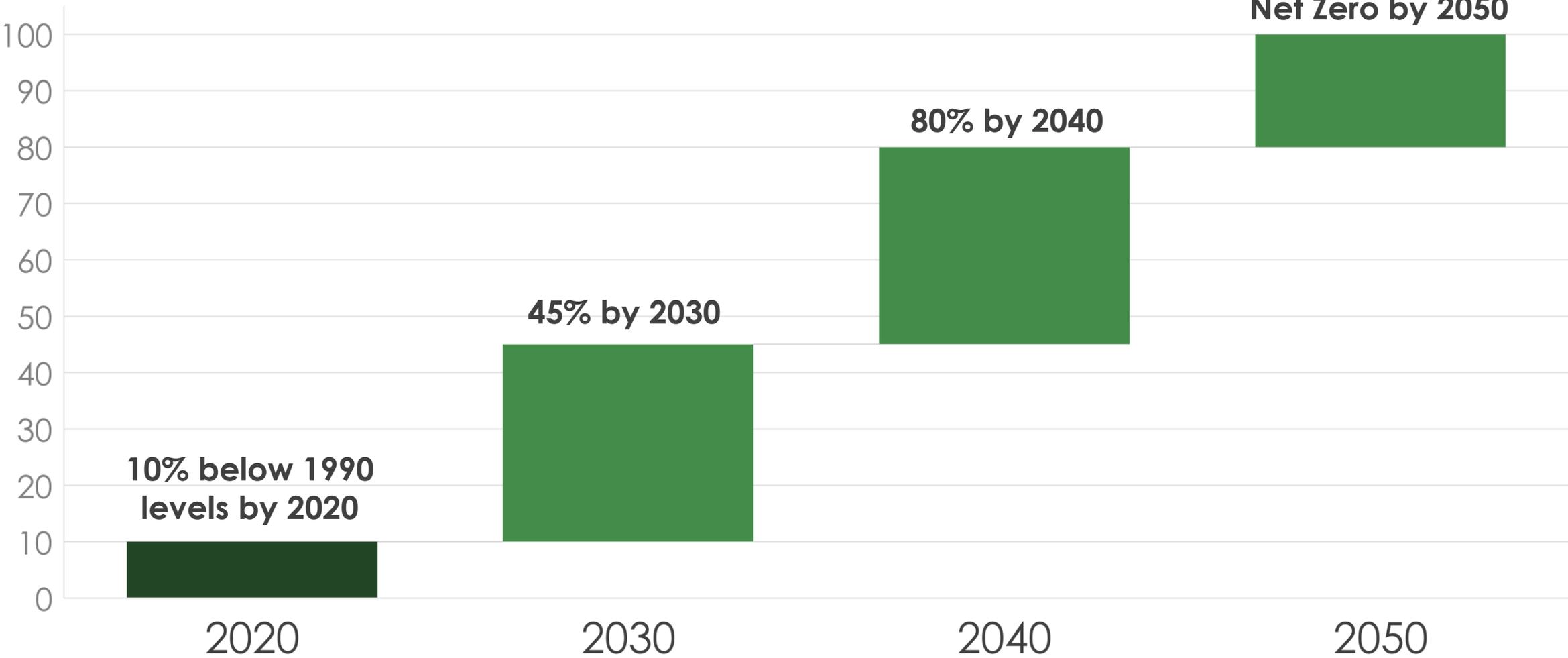
Ensure continued level of support for transportation infrastructure

All in all, the Project Team presents this Plan as a strategic policy guide that can inform legislative and programmatic development, support coordination, and foster an all-hands-on-deck effort to decarbonize the transportation sector.

Why this Plan Matters

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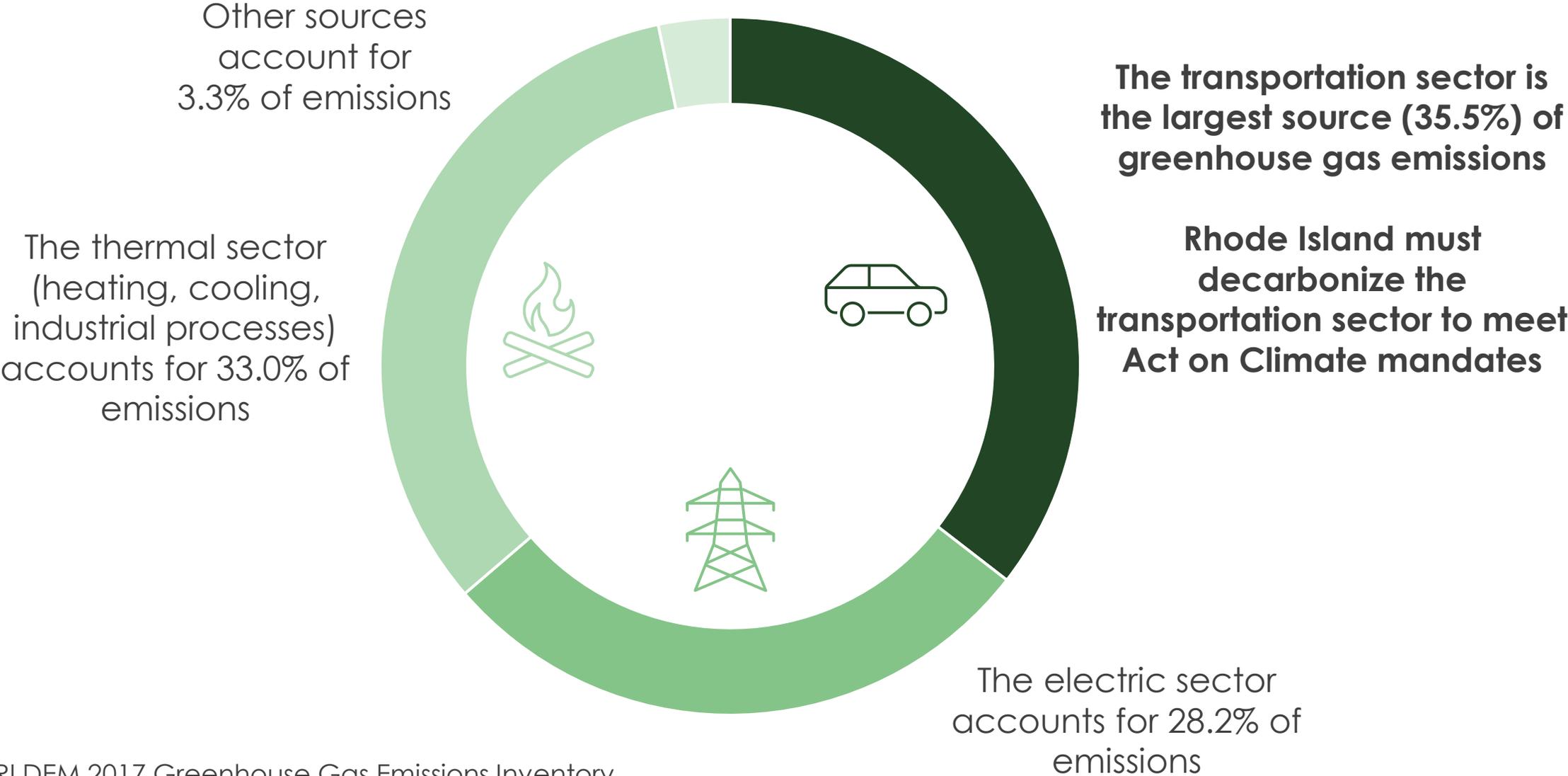
2021 Act on Climate Mandates



Why this Plan Matters

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Greenhouse Gas Emissions



Source: RI DEM 2017 Greenhouse Gas Emissions Inventory

How to Read this Plan

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Introduction



Section 1

State of Electric Vehicles and Charging Infrastructure



Section 2

Needs, Opportunities, and Recommendations

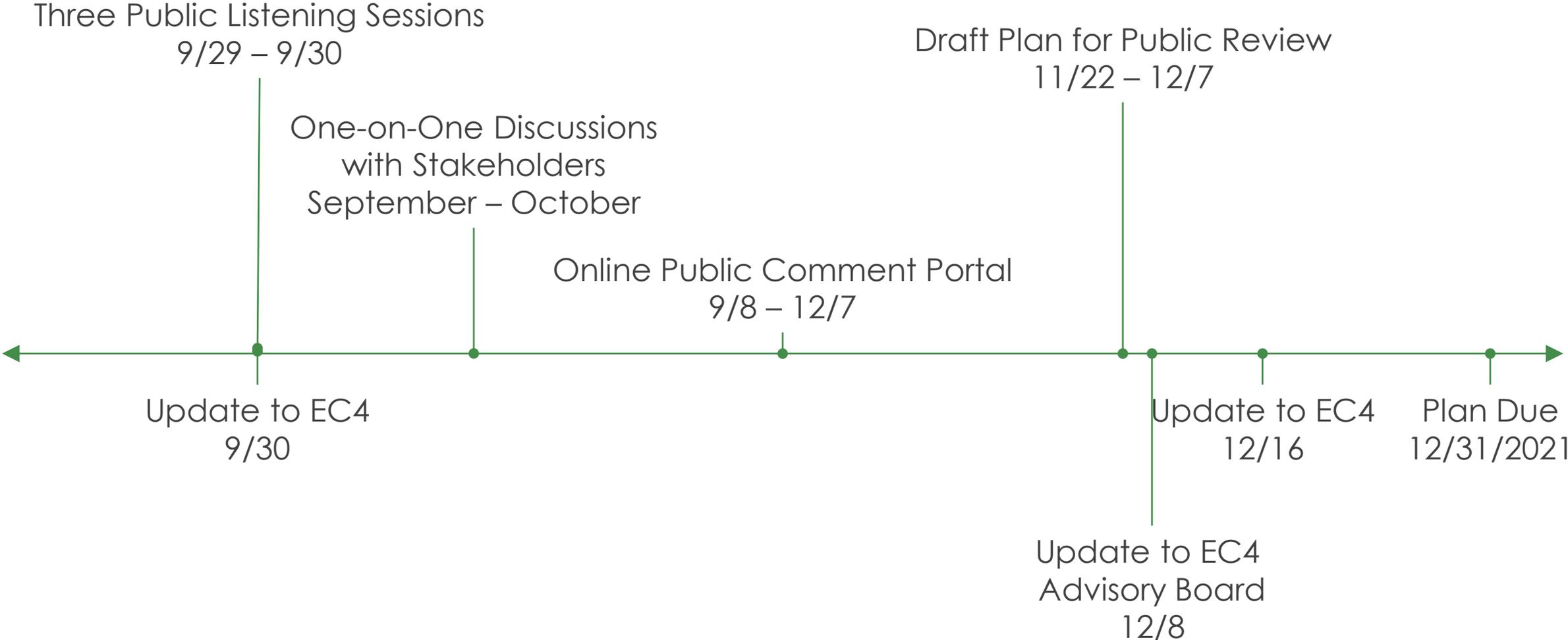


Appendix

Stakeholder Engagement and Public Participation

How We Developed this Plan

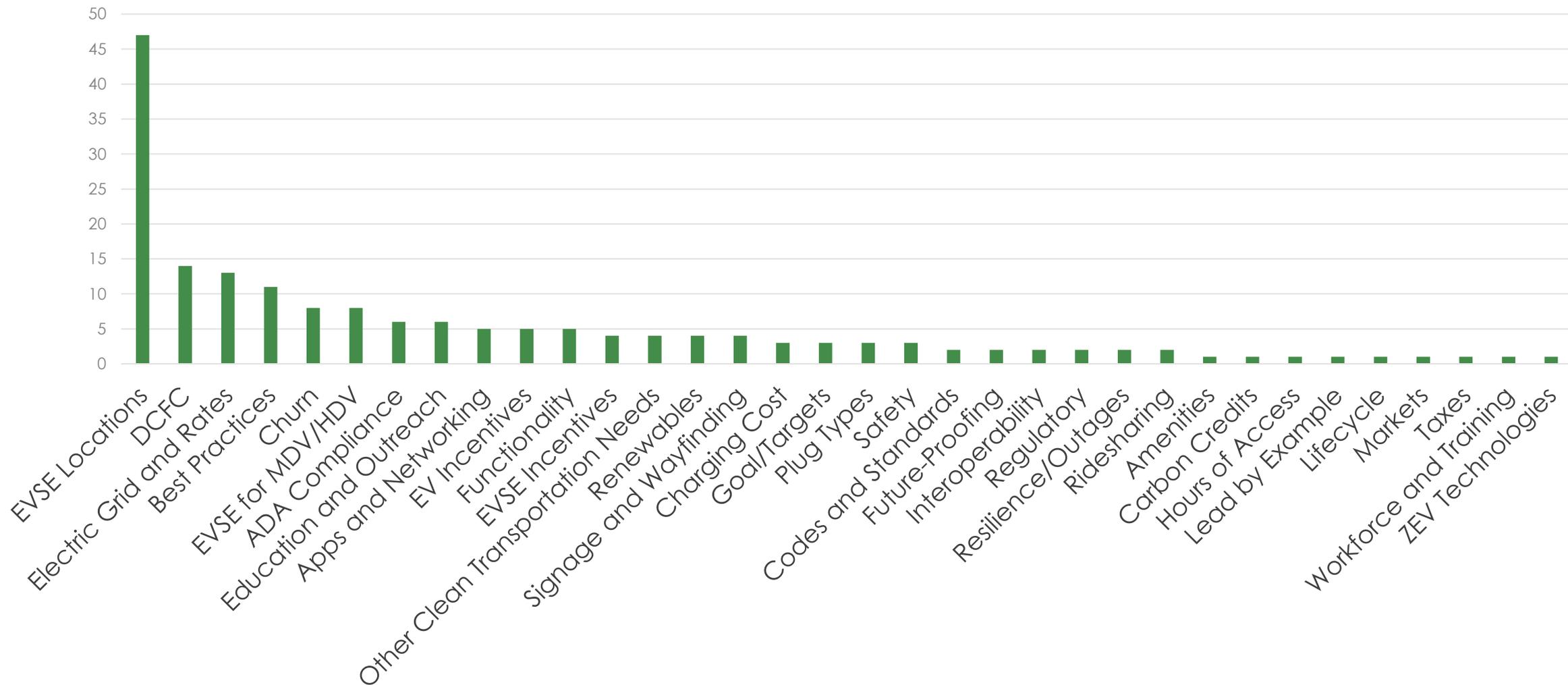
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Topics Raised by Public Comment

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Number of Comments by Topic



177 comments submitted by 62 unique commenters on 34 topics 9/8/2021-11/21/2021

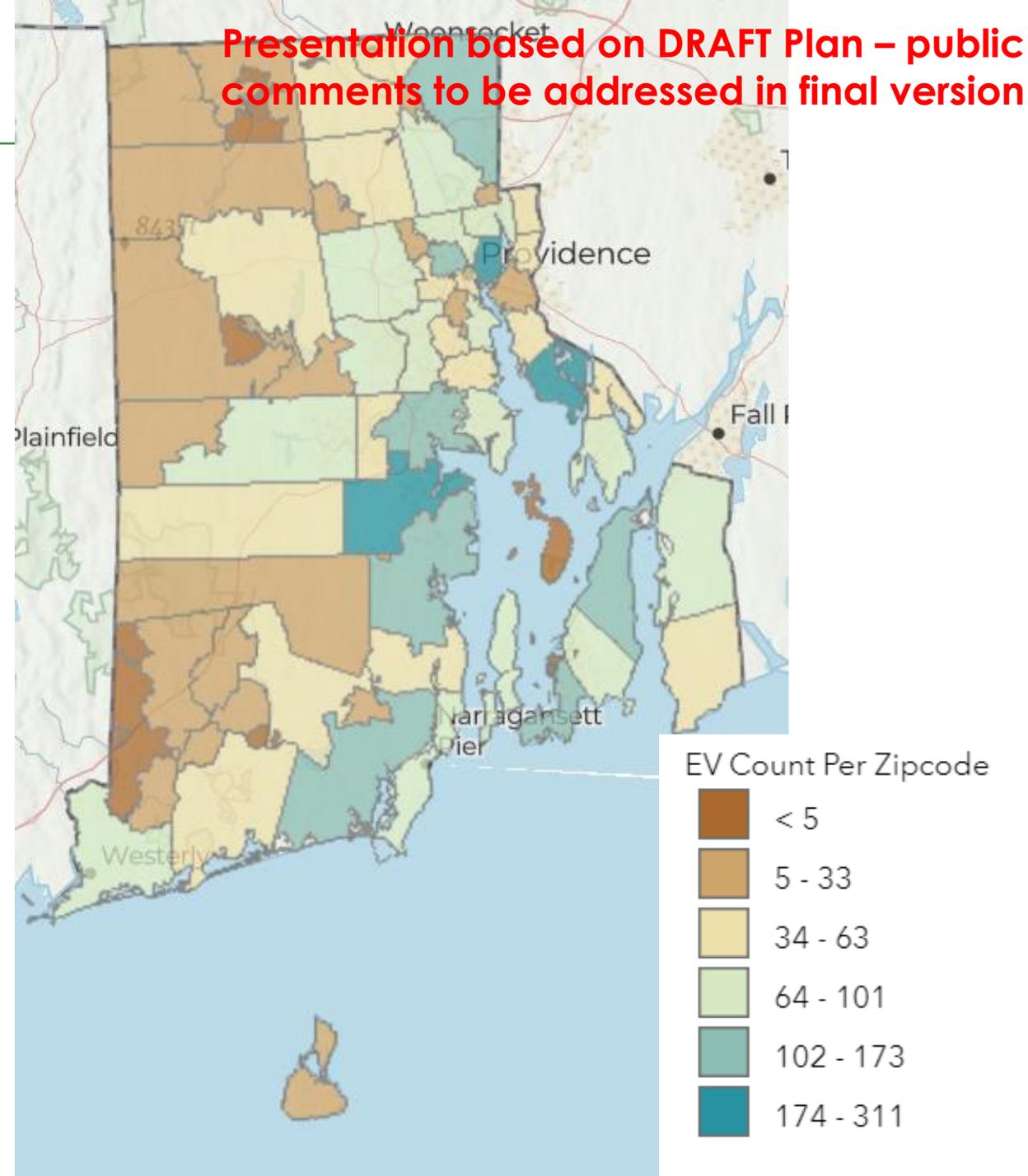
Section 1

State of Electric Vehicles and Charging Infrastructure

Electric Vehicles in RI

- ~4,300 electric vehicles registered in the State
 - 51% of electric vehicles are battery electric vehicles (BEVs)
 - 49% of electric vehicles are plug-in hybrid electric vehicles (PHEVs)
- Combined BEVs and PHEVs comprise less than 2% of total light-duty vehicles registered in RI
- Nearly 3% growth in registrations since 2017
- Sales growth doubled since 2017 (electric vehicles accounted for 1.4% of light-duty vehicle sales in 2017 and 3.1% of sales in 2021)

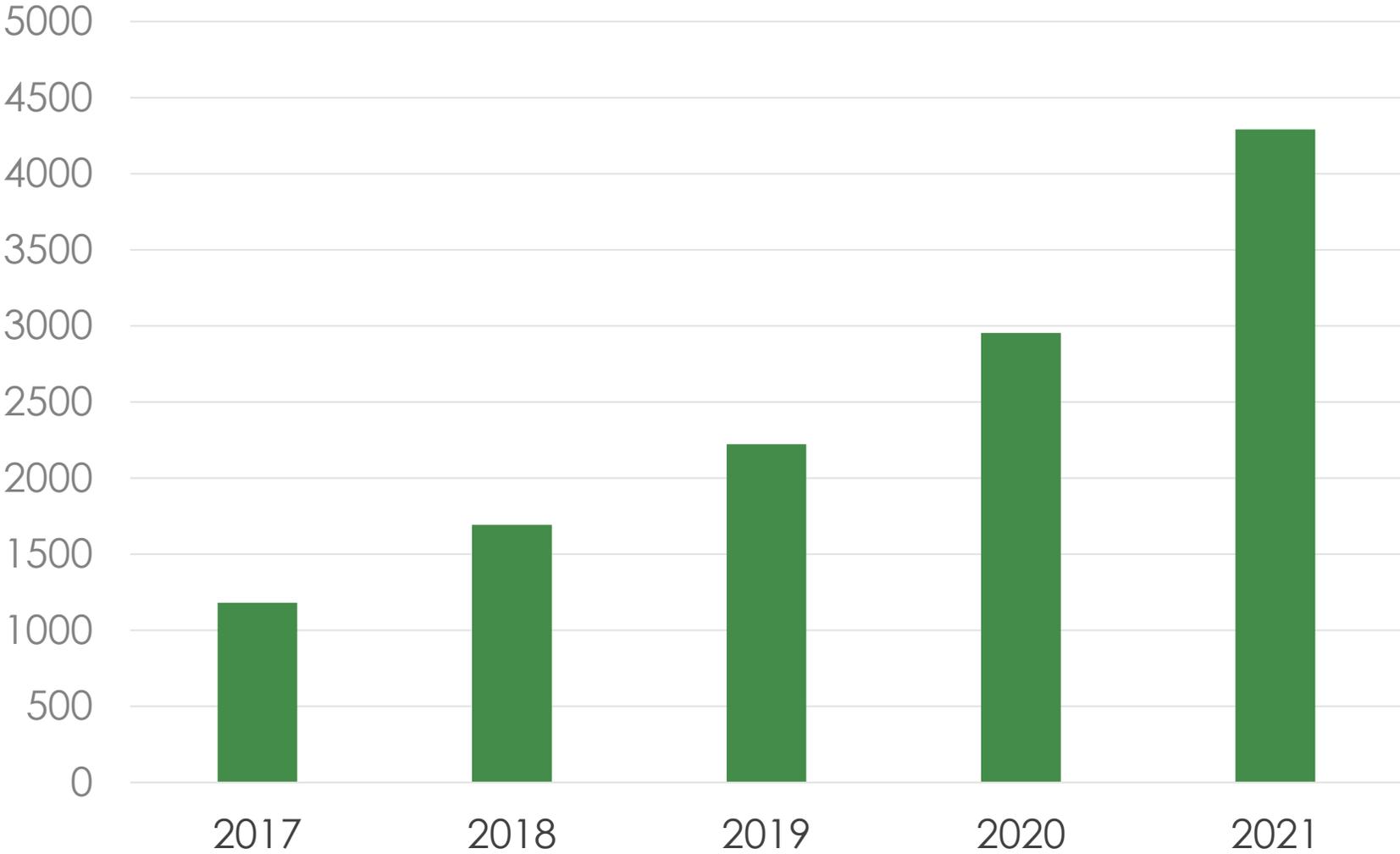
The electric vehicle concentration map is created by Rhode Island Department of Environmental Management using October 2021 registration data from the Division of Motor Vehicles.



Electric Vehicle Growth in Rhode Island

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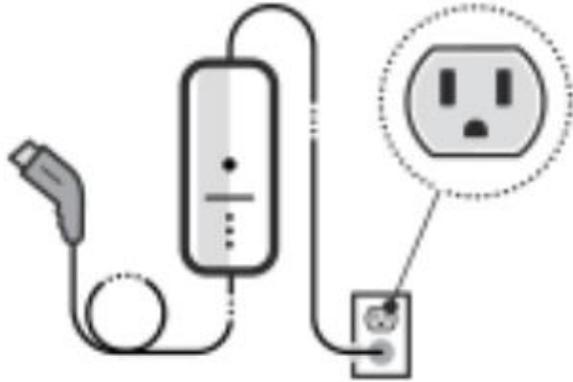
Active Electric Vehicle Registrations



Data sourced from RI Division of Motor Vehicles

Electric Vehicle Charging Infrastructure

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Level 1

- 120V
- 2-5 miles per hour of charging
- Home, work, public

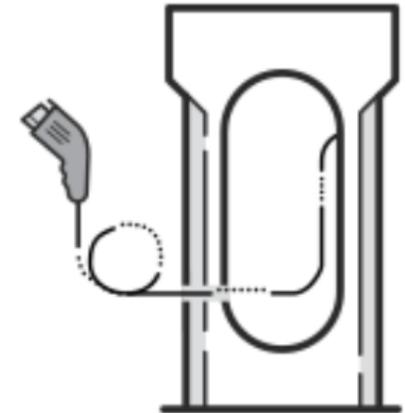


J1772



Level 2

- 240V
- 10-20 miles per hour of charging
- Home, work, public



DCFC

- Variable power
- 60 miles or more per 20 minutes of charging
- Work, public



CCS



CHAdeMO

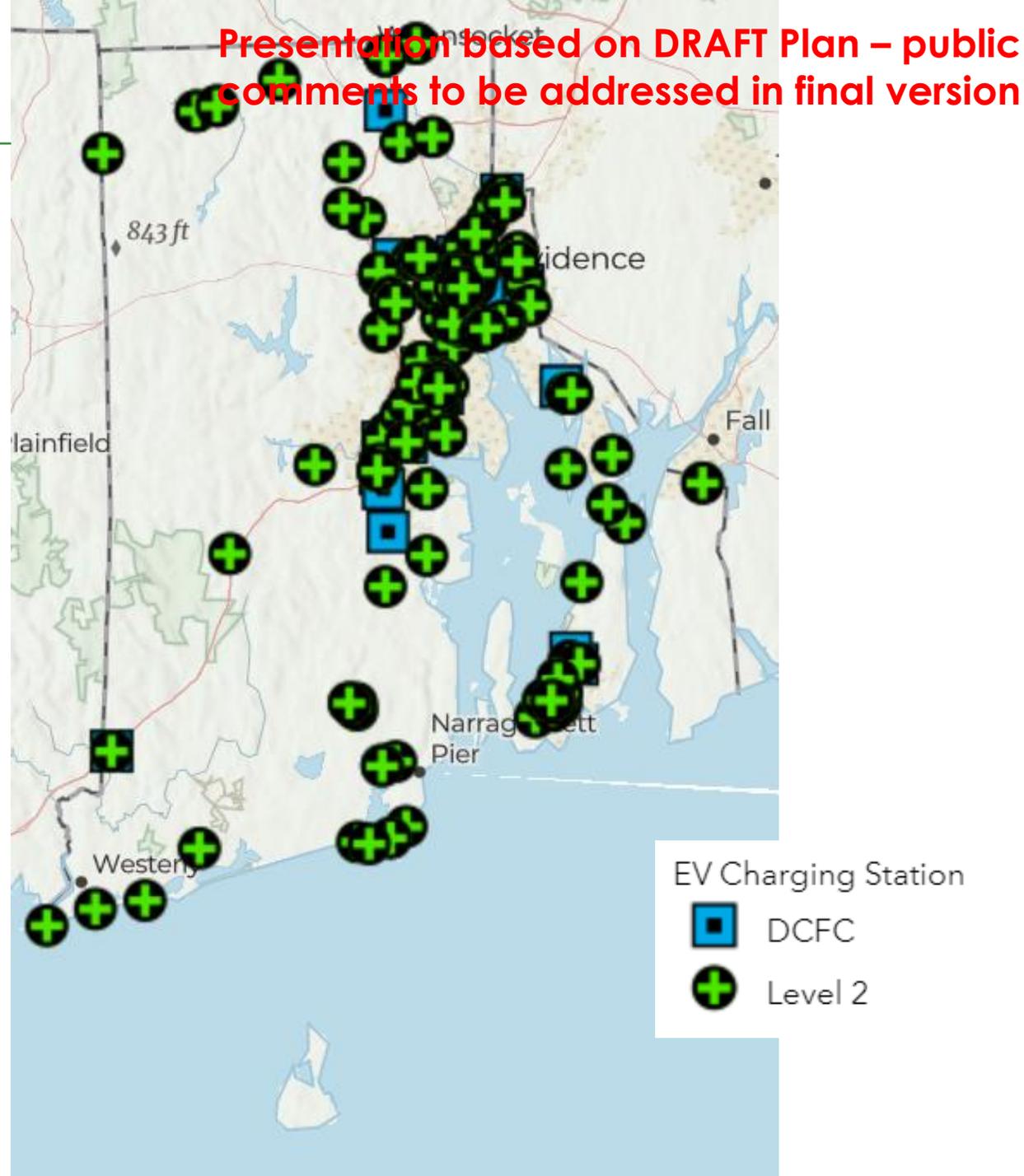


Tesla Combo

Charging Infrastructure

- 229 public charging stations with 501 charging ports
 - 204 Level 2 charging stations
 - 25 DCFC stations
- RI is ranked in the top 10 states nationally for number of electric vehicle charging station ports per capita (US DOE)
- Existing charging infrastructure is clustered near some urban and coastal areas

The map shows locations of charging stations, where a green cross indicates a publicly accessible Level 2 charging station, and a blue square indicates a direct current fast charging station (source: Alternative Fuels Data Center). Level 1 and not-publicly accessible charging stations are omitted from this map. Sourced by: Rhode Island Department of Environmental Management.

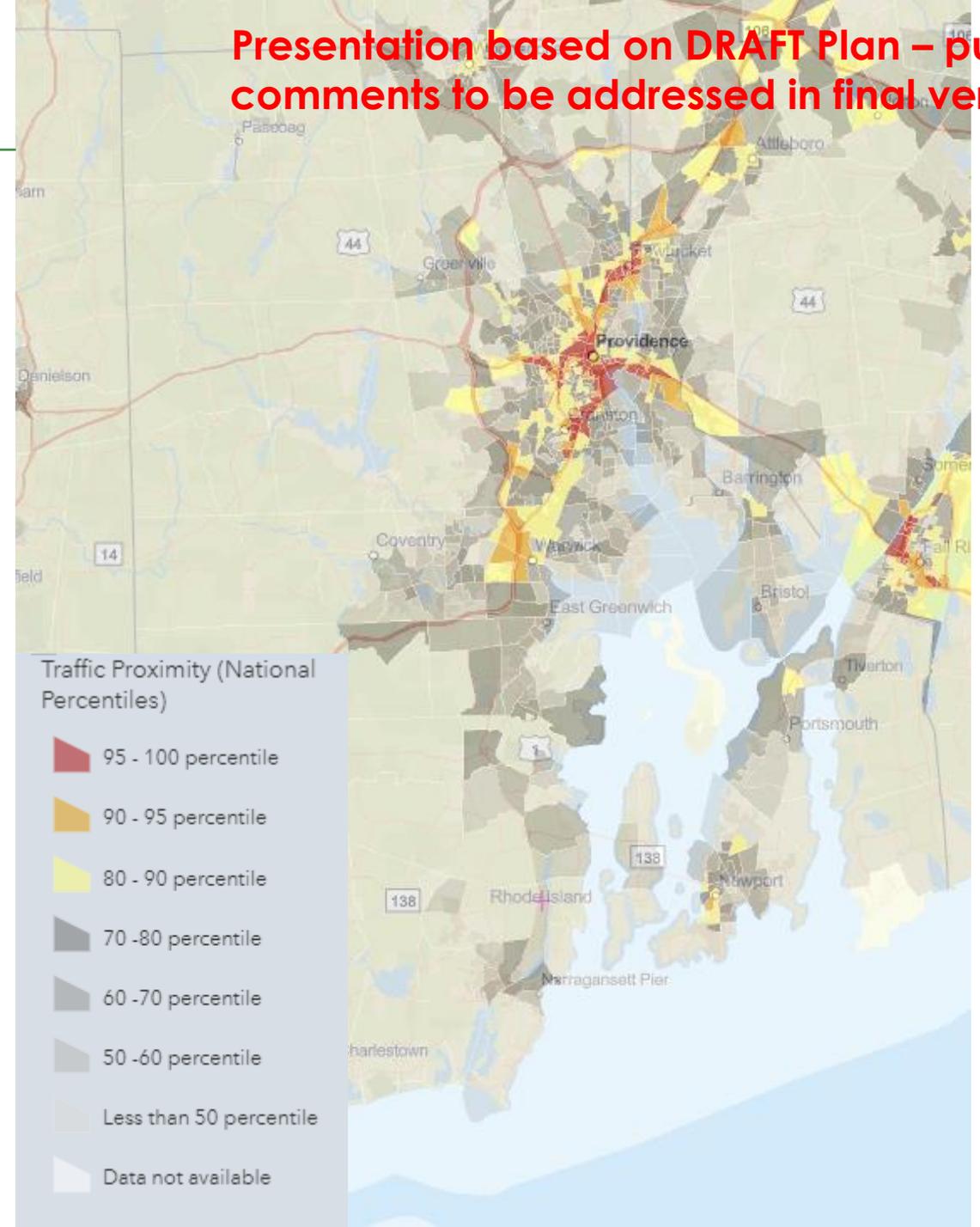


Health and Equity

- Pollution from transportation is a leading cause of poor health outcomes
 - Gasoline-powered vehicles emit particle pollution, ozone, nitrous oxide, and volatile organic compounds
 - Low-income and frontline communities of color tend to be closest to highways, bus routes, and the Port of Providence Proximity results in exposure to higher levels of air pollution and particulate matter
 - Higher exposure results in significantly reduced health outcomes
- Transitioning to electric vehicles reduces transportation pollution and improves community health

Traffic proximity from EPA EJ SCREEN mapping tool.

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Health and Equity

- Low-income and frontline communities have a higher burden of environmental risk overall
 - Frontline communities have higher rates of asthma, especially among children (RIDOH)
 - Black people are 41-59 percent more likely to die based on air quality depending on where they live (US EPA)
 - Black youth are 34-40 percent more likely to suffer from asthma due to rising temperatures from climate change (US EPA)
 - One study estimates that in 2016, there were 116 premature deaths in Rhode Island that could be attributed to vehicle emissions (Arter et al, 2021)
- Electric vehicles – and simultaneous greening of the electric grid – could yield up to \$178 million in avoided health costs in Rhode Island in 2050 (American Lung Association)

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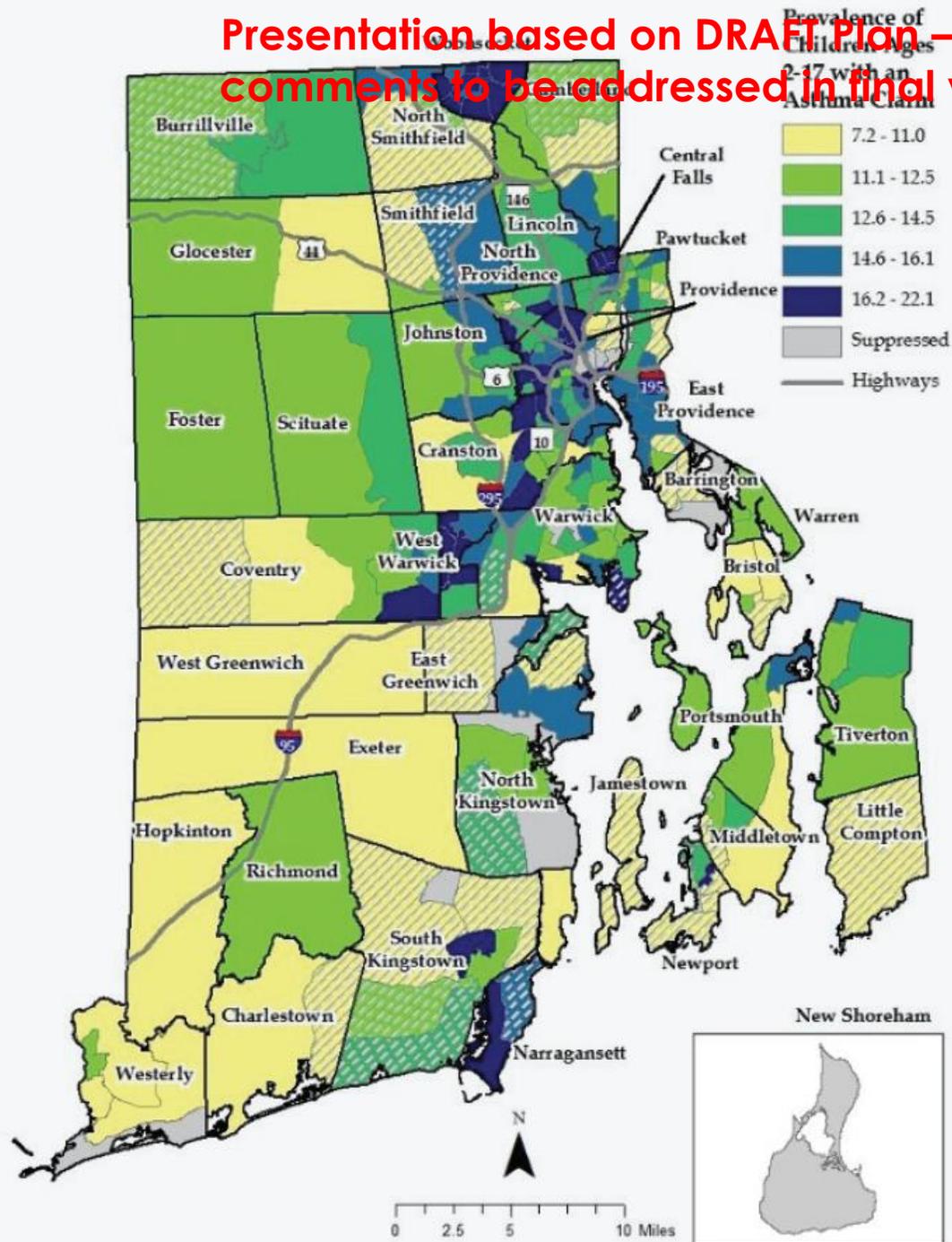
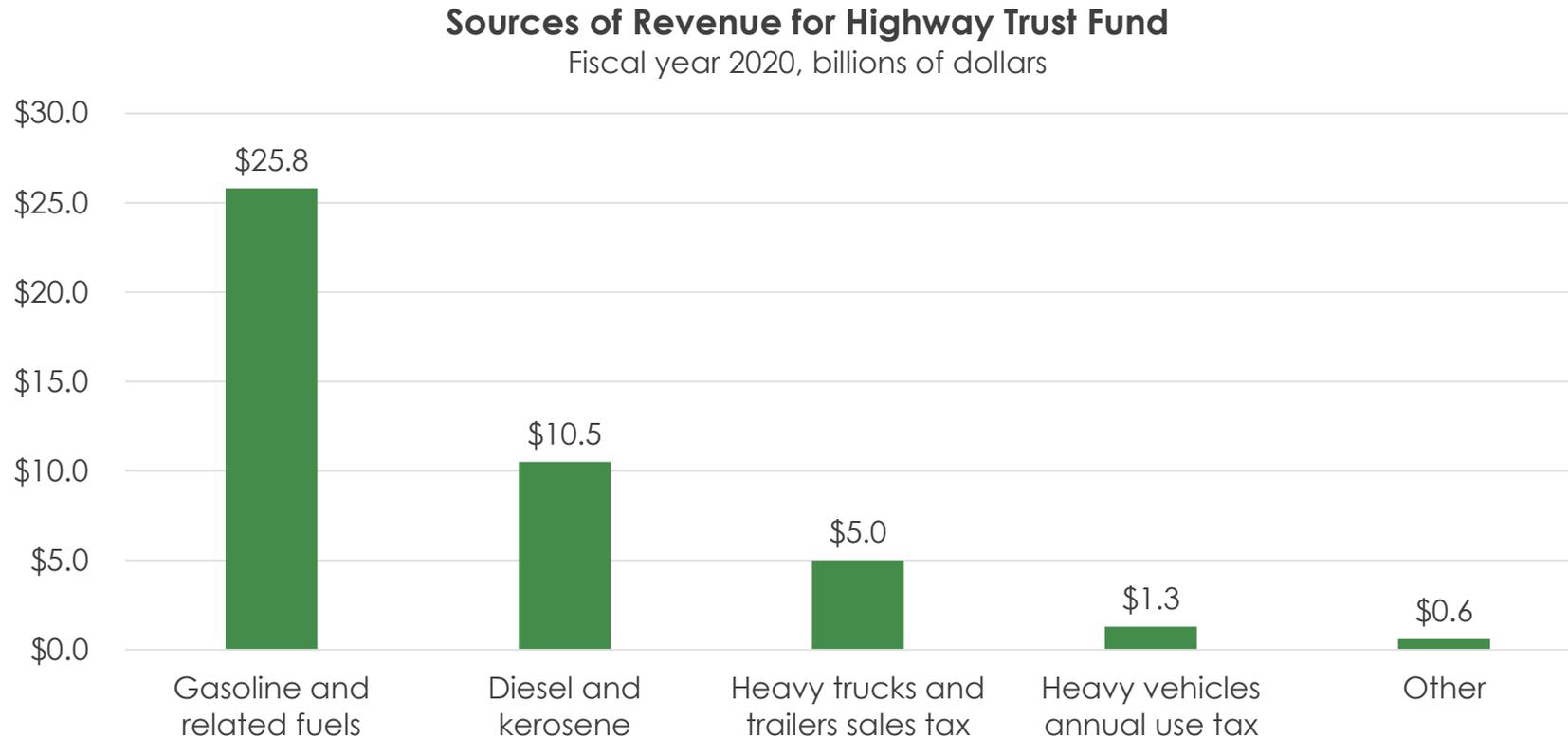


Figure from 2021-2024 Rhode Island Asthma Strategic Plan.

Funding for Transportation Infrastructure

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More than 60% of the total funding for Rhode Island's transportation system can be attributed in aggregate to the state and federal gas tax, including via the federal Highway Trust Fund:



Clean Transportation Programs

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DRIVE

- Electric vehicle rebate program available 2016-2017
- Issued rebates for 254 electric vehicles in RI
- Expended \$575,000 over 19 months
- Generated \$300,000 in state sales tax revenue



Electrify RI

- Charging station rebate program available 2019-2021
- Installed 66 Level 2 and 11 DCFC charging stations
- Funded with \$1.4 million one-time proceeds from the Volkswagen Settlement



National Grid's Electric Transportation Initiative

- Make-Ready program funded 100% of electrical infrastructure for approved charging stations
- Fleet advisory services, off-peak charging rebate pilot, DCFC rate
- Running since 2017



Lead-by-Example

- Directed by Executive Order 15-17
- 14.4% of State light-duty fleet is zero-emissions (of 25% goal by 2025)
- 62 electric vehicle charging stations with 120 ports installed across state properties



RIPTA Electric Buses

- Sustainable Fleet Transition Plan
- Zero Emissions Vehicle Program Pilot includes 3 electric buses
- 16-20 electric buses planned for 2021

Rhode Island has a strong history impactful programs and initiatives, including the programs above as well as the Mobility Innovation Working Group, Ocean State Clean Cities Coalition, and regional collaboration around transportation.

Section 2

Needs, Opportunities, and Recommendations

Eight Categories of Needs Identified

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Locational
Access



Physical Access



Utilization and
Functionality



Public Health



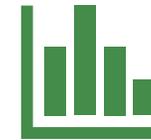
Revenue for
Transportation
Infrastructure



Electric Grid



Workforce



Data Tracking
and Reporting



Locational Access

Continue to offer incentives for installing charging infrastructure

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Prioritize incentives for charging stations located:

- Interstates, major roads, rest stops, and park-and-rides
- At home
- Multi-unity dwellings*
- Street parking, parking garages, and parking lots*
- Retail districts
- Workplaces and schools
- Hotels, tourism centers, and recreational areas
- Brownfields
- Evacuation routes, hospitals, and critical facilities

Match the level of charger to the type of location

Consider the role of building codes to provide guidance and ready buildings

Consider legislation around the 'right to charge' for residents (renters and owners) of multi-unit dwellings*

Consider requiring charging station access at a minimum number of public parking spots

Evaluate and promote resilient charging station access (i.e. charging stations powered by on-site renewables and/or batteries) along emergency routes and at critical facilities

* Indicates a critical equity recommendation



Public Health

Electrify public transit and school buses, prioritizing diesel vehicles that serve frontline communities*

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At the federal level:

- Support national R&D to develop and deploy electric medium-duty vehicles*
- Support grant funding to electrify public transit and school buses*
- Allow public transit authorities who serve frontline communities student transportation needs to apply for school bus electrification funding*

School associations may consider how to raise awareness of their desire to electrify school buses*

School districts may require or give preference to school bus service providers that commit to using zero-emissions buses*

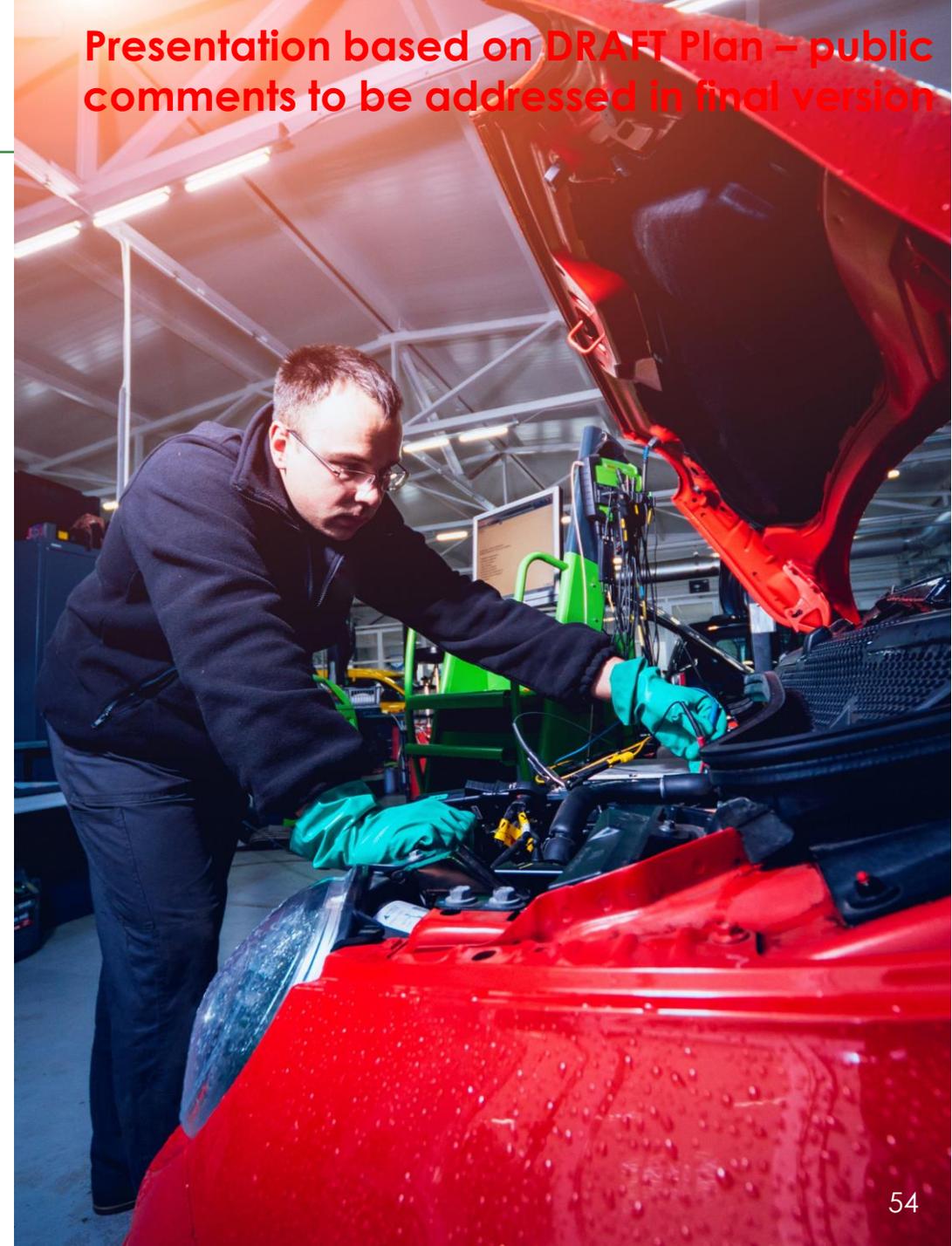
Encourage electrification for medium- and heavy-duty vehicles in industrial centers and that travel near frontline communities, like the Port of Providence*

* Indicates a critical equity recommendation

Draft Plan Public Review

- Draft Plan online 11/22-12/7
- 22 commenters submitted suggestions for improvement
 - The primary call was to make the Plan more actionable, with roles, responsibilities, budgets, and timelines
 - Other comments focused on interoperability, incentives, electricity sources and distributed energy resources, regulatory questions, specific locations and charging levels, broad mobility solutions, and others
- The Project Team is working to address all comments in the final version – thank you!

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Presentations at Public Meetings

- EC4 Council Meeting 9/30
- EC4 Advisory Board Meeting 12/8
- EC4 Council Meeting 12/16

- Announced at Energy Efficiency and Resource Management Council Meeting 9/23
- Announced at Green Buildings Advisory Committee Meeting 10/19 and 11/16
- Planned but postponed: State Planning Council Transportation Advisory Committee 10/28 (meeting was canceled)
- Announced at State Planning Technical Committee Meeting 12/3

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